

Phoebe Finn
Senior Policy Lead
Energy Systems Management & Security
Ofgem
10 South Colonnade
Canary Wharf
London
E14 4PU

WMReform@ofgem.gov.uk

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OUR REF.:

PLACE/DATE:

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POSTAL ADDRESS:
Statkraft UK Ltd
19th Floor, 22 Bishopsgate
London EC2N 4BQ
UK

VISITING ADDRESS:
19th Floor
22 Bishopsgate
London EC2N 4BQ

--- PHONE:
+44 (0)20 74488200

FAX:
+44 (0)20 74488241

--- INTERNET:
www.statkraft.com

E-MAIL:
uk-post@statkraft.com

--- VAT REG.NO.: UK-922 1630 58

CALL FOR INPUT: LOCATIONAL PRICING ASSESSMENT

Statkraft is a leading company in hydropower internationally and Europe's largest generator of renewable energy. The Group produces hydropower, wind power, solar power, gas-fired power and supplies district heating. Statkraft is a global company in energy market operations with 4,800 employees in 19 countries.

Statkraft is at the heart of the UK's energy transition. Since 2006, Statkraft has gone from strength to strength in the UK, building experience across wind, solar, hydro, storage, grid stability, EV charging, green hydrogen and a thriving markets business.

We've invested over £1.3 billion in the UK's renewable energy infrastructure and facilitated over 4 GW of new-build renewable energy generation through Power Purchase Agreements (PPAs). Across our UK businesses we employ over 300 staff in England, Scotland and Wales and play a key role in helping the global business reach its goal of 9 GW of developed wind and solar power by 2025.

Statkraft welcomes Ofgem's invitation to stakeholders to provide feedback on the potential transition to zonal or nodal wholesale market design (locational pricing). As requested, we have responded to Ofgem's questions that seek input on the opportunities and challenges associated with locational pricing, and the proposed approach to modelling.

We would like to emphasise that, at this stage, this remains a theoretical discussion and, while we appreciate the opportunity for an early conversation, there is understandably very little detail about what the practical delivery options might be. This detail will be vital in assessing how the proposal relates to the overarching objective of achieving a net zero system at least possible cost to the consumer. We cannot, therefore, provide a weighting to the opportunities and challenges that we have identified and we reserve judgement on the merit of the proposal.

Moreover, it is crucial for the proposal to be assessed alongside the broader Review of Electricity Market Arrangements. Without such an assessment there is a risk of policy

being developed in a way that leads to duplication and/or conflict, inadvertently reducing investor confidence as the policy landscape becomes more difficult to navigate.

1. The key opportunities associated with introducing more granular locational pricing in GB

Statkraft understands that Ofgem's goal through locational pricing is to reduce constraint payments and balancing costs.

In theory, locational pricing could:

- Encourage developers to build projects closer to demand, particularly batteries and gas generation
- Complement the roll-out of time-of-use tariffs, encouraging demand shifting, and better demand management – critical as the EV rollout gathers pace and low voltage demand increases
- Support hydrogen production at times and location of low pricing, and, as a result, the levelling-up agenda via increasing industrial competitiveness
- Incentivise users in the North, in particular, to shift away from fossil fuels – again supporting industrial competitiveness
- Encourage new demand to locate in areas with excess renewable generation to gain access to lower power prices
- Potentially strengthen the price signals for reinforcing the transmission system
- Make interconnectors more responsive to regional GB market price signals, increasing their efficiency
- Offer an alternative to the balancing market and make it cheaper to get power.

2. The key implementation challenges, risks and mitigations;

Statkraft supports Ofgem's goal of reducing constraint payments and balancing costs. We believe this is vital for ensuring an efficient transition to net zero and for keeping costs down for the consumer.

As we have listed, there are many theoretical benefits for locational pricing and we understand why Ofgem is looking at it as an option for reducing costs.

However, we are concerned that such a significant intervention in the market, at a time when we need to be building renewables and flexibility at scale and pace, risks being a distraction that will significantly slow progress and could ultimately push up costs – negating the potential upside of the intervention.

We would also highlight that changes are already in train that will reduce constraint costs e.g. the tailing off of ROC projects and the increasing deployments of flexible storage.

The introduction of locational pricing will require significant adjustments to charging and planning, in addition to comprehensive grandfathering arrangements for existing assets to avoid investor confidence from being destroyed as a result of unfair treatment.

We strongly believe the focus should be on making sure transmission infrastructure and flexible market mechanisms are in place to ensure renewable supply is able to meet demand when, and where it is needed.

The remainder of this section outlines each one of these challenges. We would, of course, be happy to provide more detail should it be helpful.

We understand that under the NGESO's timeframe, locational pricing could be in place by 2027/28 at the earliest. While such a lead-in time would appear to make sense for giving business time to respond, we are at a critical investment juncture that could be jeopardised as talk of introducing locational pricing will undoubtedly make it more difficult to forecast future market prices. Added to this, if the proposal were to move forward, there would have to be changes to market dispatch, existing CfDs, LCCC reference prices, TNUOS as well as further interactions between transmission and distribution networks, and suppliers.

All of this adds to uncertainty, heightens risk and dampens investor confidence. A hiatus in investment as an intellectual debate plays out risks wiping away any potential benefits of transitioning to locational pricing and could have consequences for the primary shared objective of reaching net zero at least possible cost to the consumer.

We have seen in the past how changes that create uncertainty about how existing projects will be treated under a new regime and/or increase complexity in the market lead to higher capital costs. In a locational pricing system, Scottish wind CfD clearing prices may increase as projects need to forecast greater periods of negative/zero prices where they will not receive any payments. Even for a given strike price, if power prices in high wind nodes are on average lower, the LCCC will need to make greater top up payments to generators. These increased costs will then be recharged to the consumer via CfD levy payments (or there will be a reduced payback to consumers from the CfD).

In assessing the merit of proceeding with locational pricing it is important to recognise that ROC projects are dropping off the system, and the cost of constraining wind will therefore be greatly reduced. However, until transmission is sufficiently upgraded, we will still have to turn on gas to compensate for this constrained wind. In a locational market, consumers in the South will therefore end up paying a lot more because there are fewer renewables due to tougher planning policy in England and population density.

Renewable resources are not evenly spread across the GB market and some of the best resources are far from the central demand areas. This implies that there will also be a need for significant transmission capacity in the long run, regardless of price signals or changes to GB pricing zones. Due to this, the incentives and drive to build new transmission capacity should not be weakened as a result of this reform. There will continue to be a need to develop renewables across the UK even in areas far from the highest demand.

The full potential benefits of locational pricing rely on planning decisions being made in an objective and technology neutral way. This does not exist in the GB market, particularly in England where onshore wind is effectively banned. We understand that a review, let alone an update of planning policy, is highly unlikely. In such a scenario, the availability of land for project development will remain constrained, severely weakening the potential of locational pricing to encourage sites to be developed closer to demand. We note that National Planning Statements are due to be updated but we do not expect these adjustments to allow onshore wind to be built in England.

As mentioned in the workshop note, liquidity is likely to be lower with locational pricing as the regional markets will be smaller than GB as a whole. This could lead to extremes in prices as the step changes in supply and demand will be proportionally greater compared to a national scale. Such volatility could increase uncertainty and undermine investor confidence at a time when we need to be building projects at scale to ensure we keep the UK on the pathway to net zero.

It is worth noting that liquidity is important for competition because longer dated price discovery allows more participants in the market as the risk is easier to manage. Reduced liquidity could therefore see the number of market participants fall, particularly smaller companies who will likely be discouraged by the higher level of risk. Reduced competition could see any cost benefit of locational pricing weakened or lost entirely.

Finally, the smaller the zone, the lower the demand weighted income stream is likely to be. This could make merchant wind projects riskier and more expensive, going against the historic trend of falling prices.

Locational pricing could also provide a perverse incentive for some strategically located power stations to try to game the system, creating constraints and pushing prices up.

To reiterate, we strongly believe the focus should be on making sure transmission infrastructure and flexible market mechanisms are in place to ensure renewable supply is able to meet demand when, and where it is needed. This is the best way to keep bills down.

3. The proposed approach to modelling zonal and nodal market designs.

Statkraft supports the following areas being investigated in more detail:

- The impact on GHG emissions from generation and development
- The impact of reduced generation build-out ahead of any new pricing model coming into action, as companies assess and adapt to the changes
- The impact of higher costs of capital for new projects to reflect higher volatility, lower liquidity and uncertain price forecasts
- The impact on network investment and charging
- The pros and cons of nodal vs regional zones as it relates to the strength of price signal, liquidity, competition etc.
- The impact on CfD contract holders and options for potential grandfathering arrangements for existing projects
- The relation to ongoing reform e.g. REMA, TNUOS reform, energy storage and hydrogen business models etc.
- The revision of the FES and an uptick in targets as it relates to locational pricing
- The risk of market gaming
- The availability of suitable land, recognising the constraints of the planning system and differences in land use/value from region to region

When evaluating the cost to the consumer of wind behind a constraint boundary a holistic approach should be taken: constraint costs should be offset by the impact of additional low marginal cost generation shifting the merit order and lowering the power price when there is no constraint.

There should not be a default assumption that the same amount of wind will be built if the change is implemented. Modelling should take a holistic approach, e.g. if there are lower power prices in wind nodes, but new wind generation is brought forward via CfD, the increased levy costs (or reduced levy returns) should be included.

Concluding remarks

We are committed to engaging in this process and look forward to participating in further discussions.

Yours sincerely,
for Statkraft UK Ltd

Naomi Harris
Head of UK Public Affairs, European Wind & Solar